Applicant: Kaisa Putkisto et al.
Application No.: 10/507,417
Response to Office action dated Feb. 14, 2006
Response dated March 10, 2006

Remarks

Claims 5–16 remain pending in the application. In the Office action dated Feb. 14, 2006, the specification was objected to inasmuch as the title was not descriptive. The disclosure was objected to because of informality: the description on page 9 was considered to lack technical correctness and coherency. Claims 5, 8, 11, and 14 were rejected as containing new matter i.e., the claimed position of the electrodes with respect to the web, and the position of the corona electrodes upstream and downstream of the nozzle. Claims 5, 8, 11, 14 were rejected as indefinite; claims 5–7, and 11–13 were rejected as obvious over Fisher; and claims 8–10, and 14–16 were rejected as obvious over Fisher in view of Haller.

Paragraphs [0019], [0020], and [0021] have been amended based on the drawings and the inherent content of the application as set forth in the claim table for claim 5 below.

Applicant agrees with the examiner's interpretation of the disclosure set forth at the top of page 3 of the of the Office action. Claim 5 before amendment is compared with the disclosure of the specification showing that the claimed method is explicitly or inherently disclosed, and thus no new matter is presented. In the claim table material in quotes is taken directly from the indicated numbered paragraph of the specification, while material not directly quoted is based on the specification and drawings.

Claim language	Support in specification
5. A method for coating a paper or board web in a dry surface treatment process comprising the steps of:	[0003] "The dry surface treatment process of different substrates, such as paper, board," [0025] "The substrate is preferably in a web form."

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pre-charging particles of a dry powder by causing the dry powder to move between a first electrode producing a corona charge and [[an]] a second electrode at a lower or opposite potential to form pre-charged particles;	[0020] " pre-charge the particles of the coating powder ... a dry powder is led first to a separate electric field and after that to the final electric field. Particles of the dry powder are pre-charged in a charging unit comprising a corona charging electrode, an electrode having a different potential compared to the corona charging electrode (e.g. a grounding electrode, an electrode in a lower or opposite potential), and a feeding nozzle."
supplying the pre-charged particles to a feeding nozzle forming [[an]]a third electrode and blowing the pre-charged particles from the feeding nozzle toward the paper or board web, the feeding nozzle being positioned between a ~~second~~ fourth electrode producing a corona discharge upstream of the feeding nozzle and a ~~third~~ fifth electrode producing a corona discharge downstream of the feeding nozzle,	[0025] "The substrate is preferably in a web form." [0019]... grounding electrode ... a roll rotating about its axis....The pre-charged particles are blown towards a substrate to be coated. " If the grounding electrode 3 rotates the web moves. Fig. 2 shows no particles at the top of the figure and a build-up of particles on the web 4 toward the bottom of Fig.2 , while the particles are shown coming only from the feed nozzle 8. Thus it is inherent to a person of ordinary skill in the art that the web is moving from top to bottom in Fig. 2. The terms *upstream* and *downstream* simply make explicit the inherent directionality of the moving web which inherently defines a direction of movement.

wherein the feeding nozzle is spaced from the paper or board web a first distance, and wherein the second electrode and the third electrode are spaced from the paper or board web a distance which is less than the first distance;	[0019] "one charging electrode comprising a feeding nozzle is located farther away from the substrate to be coated." i.e. a first distance from the web. It is implicit that the feed nozzle is further away from the substrate than the other charging electrodes. If one electrode is further away than other electrodes must be closer. This is shown in the drawings Figs.1 and 2. Scale is not the issue, just the relative position of structures depicted. A drawing without scale and without relative position is contrary to reason. Such a drawing could only communicate the existence of objects and therefor provide no advantage over mere words.
wherein the paper or board web is backed by a grounding electrode at a potential which is lower than or opposite to the potentials of the feeding nozzle forming the third electrode, the ~~second~~ fourth electrode, and the ~~third~~ fifth electrode, and wherein the feeding nozzle forming the third electrode, the ~~second~~ fourth electrode, and the ~~third~~ fifth electrode are located on a side of the paper or board web opposite the grounding electrode.	[0019] "the final electric field formed by the other charging electrodes, for example corona charging electrodes, and a grounding electrode, or an electrode having an opposite sign" Based on a geometric description of the drawings.

Claims 5, 8, 11, and 14 have been amended to number the electrodes (except for the grounding electrode) in the order they are introduced in the claim to remove confusion as to the number of electrodes described. Claim 11 has been amended to correct an indefinite reference to "the web".

Fisher is directed to a method of electrostatic printing, and does not suggest coating a web. A paper or board web may be a dialectic but how to successfully coat such a material is not disclosed by Fisher. Furthermore, the examiner points out that the charged particles streamed through the charged mask 18 such an arrangement, perhaps effective for printing, is

not suitable for coating where uniformity and complete coverage are desired and therefore Fisher does not teach coating as used in applicant's claimed invention.

Haller teaches a turbo-electric powder spray gun. Corona charging and turbo charging are distinct, corona charging uses ions formed at a high voltage source which attach to particles, turbo charging uses friction to induce charging, both are used in electrostatic spraying, but they are distinct. How such charging methods can be used to coat a web by using the particular arrangement of electrodes claimed is not suggested.

The arrangement of the electrodes as claimed is advantageously directed to overcoming problems of the prior art by a particular arrangement of a particle charging system, a feed nozzle, and electrodes positioned with respect to a web which is coated. Fisher does not teach upstream and downstream electrodes, and while the stencil of Fisher is closer to the substrate than the coating nozzle, the nozzle is not between two electrodes which are closer to the substrate.

Fisher, col. 4, lines 8–29, provides only a suggestion that various electrostatic fields may be maintained to affect the result desired in Fisher. At most this is a suggestion to experiment to affect the invention disclosed in Fisher, not a suggestion to do what applicant has done, nor does it provide an expectation that applicant's method will be successful.

The examiner must do more than suggest applicant's invention is the product of routine experimentation, but most show how the prior art suggests, or provides a motivation for doing what applicant has done, and provides an expectation of success. Using applicant's disclosure as a blueprint must be avoided.

The amended claims 5, 8, 11, and 14 and the claims depending therefrom have distinct limitations e.g., the arrangement of the electrodes, which are not shown nor fairly suggested by the prior art applied by the examiner.

Applicant believes that no new matter has been added by this amendment.

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Applicant submits that the claims, as amended, are in condition for allowance. Favorable action thereon is respectfully solicited.

Respectfully submitted,

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